

Abstract of the Disclosure

The invention is directed to methods, apparatuses, and systems for treatment of a liquid flow comprising addition of a chemical treatment at at least two locations along a side stream of a main flow of said liquid, in which the dosing by such additions is sufficient to treat the entire main flow upon return of the side stream to the main flow. Algorithms are
5 utilized to control the additions at the locations of addition of chemical treatments. In a typical embodiment, one chemical addition is principally proportional to the flow rate of the liquid flow, and the other chemical addition is principally adjusted based on signals from a primary measuring device that measures a parameter in the flow after one or both chemical additions. The addition of chlorine dioxide as the chemical treatment, to
10 disinfect wastewater, is discussed.